

PLUS!
SPECIAL
1980 NEW
MODEL SUPPLEMENT

CIRCUIT



ISLE OF MAN TT SPECIAL ISSUE 1980 Price 50P



This special Isle of Man TT issue of Yamaha Circuit marks a significant milestone in the history of the magazine. After five years of controlled circulation to dealers and motorcycle clubs, the publication is to go on general distribution nationwide throughout the British Isles and the Republic of Ireland.

Yamaha machines and riders have always made an important contribution to all branches of motorcycle sport and added greatly to the pleasures of the everyday motorcyclist. That is why we have made the decision that Circuit magazine is to be produced "by Yamaha for all motorcyclists".

As far as Yamaha is concerned, all motorcyclists are part of the same big, friendly family. If you are a motorcyclist, then Circuit is for you. If you are a Yamaha owner as well, then that's an added bonus for both of us!

For five years the editorial and photographic qualities of Circuit have given great pleasure to the limited number of motorcycle enthusiasts who have received it.

Not its pleasures are available to motorcyclists everywhere. This special Isle of Man TT issue, with its full-colour Spring Supplement, is to give you a sampling of the type of reading that Circuit magazine will be bringing you in future months. The first general issue will go on sale in July and regularly every two months from that date. Look out for it at your local newsagents.

Meanwhile, we hope you enjoy what this issue has to offer.

Richard Cox

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CIRCUIT



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YAMAHA men

“On the Island”



Charlie Williams



Dave Dean

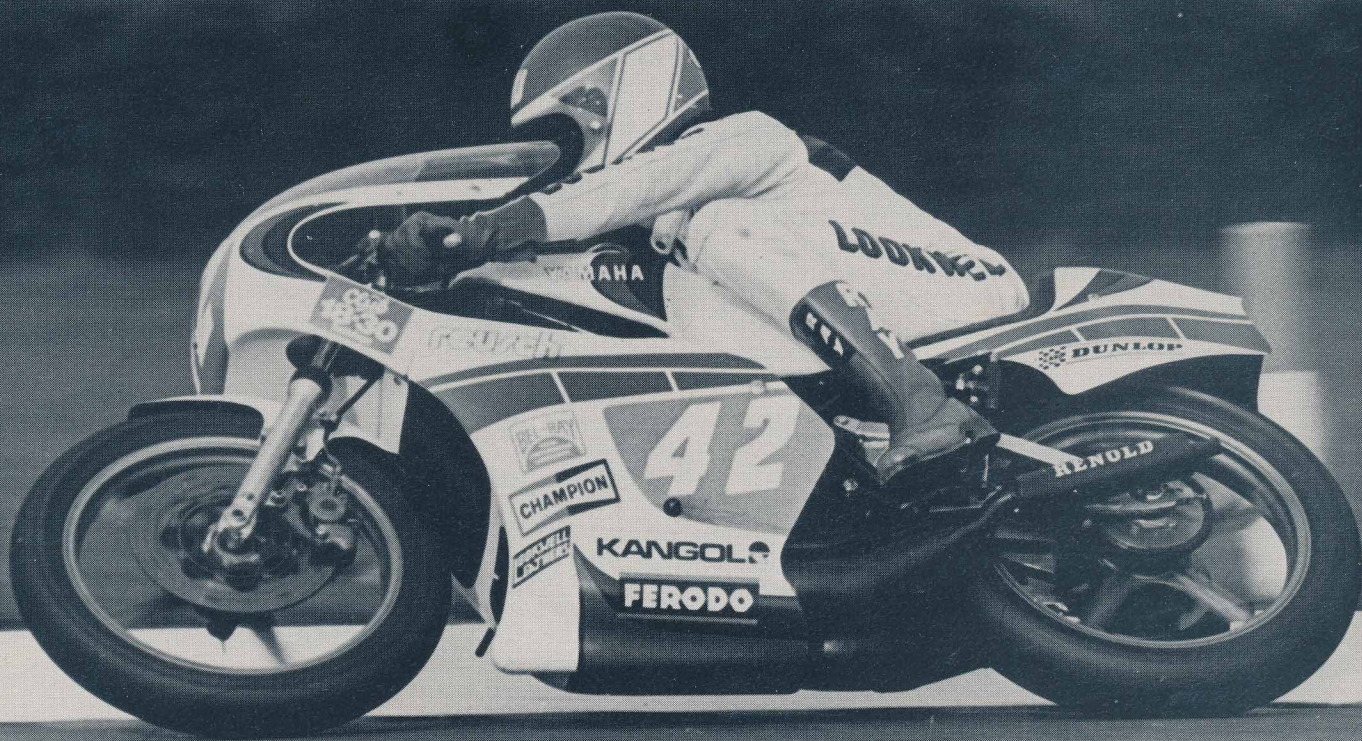
As well as a horde of riders on “private” machines, Yamaha will be represented at the Isle of Man by two of the official Mitsui-Yamaha road race squad and by both members of their British Championship motocross team.

Charlie Williams and Dave Dean will debut the exciting liquid-cooled RD350 machines in the Formula Two event.

“They will be more or less stock street machines” says Williams, “as there isn’t time to make a lot of modifications to the bikes. We’ll be at a disadvantage against the special racing machines that have been developed for this class over the years but, even so, I think the fans will be impressed by the RD350 performance in virtually showroom trim.

Williams will also compete in lightweight open “classic” and senior T.T. races on TZ250 and TZ500 racers.

Moving over to the rough stuff, both Andy Roberton and Paul Hunt will compete in the Isle of Man Grand National Motocross - one of the most popular “added attractions” of the T.T. week.



Charlie Williams flat out on the TZ250

CHARLIE WILLIAMS has been famous for his superb Isle of Man performances ever since he won the 250cc Manx Grand Prix in 1971.

He graduated to the professional TT races in 1972 and scored his first TT win a year later, when he captured the 250cc Lightweight race. He made it a 'double' that year by also winning the 250cc Production race.

Since that time there have only been two years when Charlie has not won one or other of the TT races ... most famous motorcycle races on earth.

He repeated his 250cc Lightweight win in 1974 and scored a 'double' again in 1975 with victories in both the 350cc Junior and the 500cc Production races.

In 1977 and 1979 came two more wins in the 250cc Lightweight class, making him one of the most successful TT riders of all time in the smaller classes.

But it's not just on the 'Island' that Charlie excels. He's an accomplished pilot of the hefty Formula One and Endurance racers, placing second in the European Endurance Championship in both 1977 and 1978.

In regular 'short circuit' events Charlie is no slouch either, as proved by his second place in the Motorcycle Racing/Vladivar Vodka 250cc Championship last year.

Charlie, at 29 years old, lives in Chester with his wife Anne, and their two little girls, Julie (4) and six-month old Kate. Playing squash and trials riding are his ways of both keeping fit and relaxing at the same time!

He will ride 250 and 350 TZ Yamahas in major British short circuit events for those classes and will add a TZ500 to that brace for the genuine 'road race' classics like the TT and the Ulster Grand Prix.

Charlie's TT programme is an exacting and an interesting one. He

will ride the TZ500 in both the 500cc and the open 'Classic' races plus the 250 and 350cc twins in Lightweight and Junior events. Then he will start the Formula 2 race as one of the favourites aboard one of Yamaha's new street machines, the liquid-cooled RD350. With his record he's quite capable of winning all five!

'Eligible bachelor', **DAVE DEAN**, is a 22 year old from Up Holland in Lancashire who last year set all kinds of club racing records, winning over 100 events during the course of the season.

He totally dominated British club racing, winning 350 and 500 Marlboro/Yamaha British Clubman's Championships and the same classes in the Auto 66 Club Championship. He was also 1000cc Champion of the Waterloo & District Club, won the Wurth Screw Fasteners Clubman's Championship and climaxed his year by being voted Daily Express 'Young Sportsman of

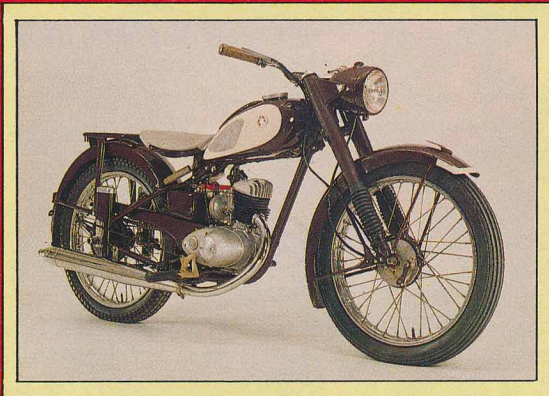


CIRCUIT

ENGLISH EDITION

SPRING 1980

1955-80





XJ650

XJ650

ENGINE

Type

D.O.H.C., 4 stroke,
4 cylinder

Displacement

653 cc

Bore/stroke

63,0 x 52,4 mm

Compression ratio

9,2 : 1

Max. horsepower

53,8 Kw (73 HP) /9.000

Max. torque

59,2 Nm (6.0 Kg-m) at 7.500

Lubrication system

Wet sump

Starting system

Electric

Gearbox

5 speed

DIMENSIONS

Overall length

2170 mm

Overall width

730 mm

Overall height

1130 mm

Wheelbase

1435 mm

Min. ground clearance

140mm

Weight

206 kg

Fuel tank capacity

19,5 lit

Tyres: Front

3.25-19-4PR

Rear

120/90-18

Brakes: Front

Dual discs

Rear

Drum



New Racers for 1980

Yamaha have won more World Championships than any other make of motorcycle still active on today's scene. In addition, no other manufacturer has helped so many private riders to Championship honours.

That is why the announcement of the latest range of Yamaha competition machinery is an event awaited with heightening interest by both spectator and competitor alike.

This year there are two sensations in the Yamaha production road race range, with the "Kenny Roberts Replica" TZ500 very much at the top of the list. With 110 horsepower available, the TZ500 is even more powerful than its bigger brother, the 100hp TZ750!

Also new on the road race scene is the ultra-

lightweight (just 72kg!) TZ125 which puts over 30hp from its 123cc. The TZ125 has proved itself in Oriental races and now appears in Europe for the first time.

The consistently successful TZ250 and TZ750 continue unchanged for 1980.

There's more big news on the motocross front. Now the dirt riders can buy a Yamaha big-class model that is virtually a replica of that used by Heikki Mikkola in 1979. At 465cc and with over 52hp available, the YZ465 is the biggest, most powerful motocrosser available to the private rider. Other well-proven Yamaha motocross machines span the capacity range from the YZ50 mini-motocrosser, through 100cc, 125cc and the 40hp 250cc models. See the new race bikes on pages 24-25.

RD250LC

ENGINE

Type	2 stroke, water cooled, twin
Displacement	247 cc
Bore/stroke	54,0 x 54,0 mm
Max. horsepower	26,1 Kw (35,5 HP) /8.500
Max. torque	30,2 Nm (3,1 Kg-m) /8.000
Lubrication system	Autolube
Starting system	Kick
Gearbox	6 speed

DIMENSIONS

Overall length	2055 mm
Overall width	750 mm
Overall height	1090 mm
Seat height	785 mm
Wheelbase	1360 mm
Min. ground clearance	170mm
Weight	140 kg
Fuel tank capacity	17 lit
Tyres: Front	3.00-18-4PR
Rear	3.50-18-4PR
Brakes: Front	Disc
Rear	Drum

RD350LC

ENGINE

Type	2 stroke, twin-cylinder, LC
Displacement	347 cc
Bore/stroke	64,0 x 54,0 mm
Compression ratio	6,9 : 1
Max. horsepower	34,6 Kw (47 HP) /8.500
Max. torque	40,2 Nm (4,1 Kg-m) /8.000
Lubrication system	Autolube
Starting system	Kick
Gearbox	6 speed

DIMENSIONS

Overall length	2055 mm
Overall width	750 mm
Overall height	1090 mm
Wheelbase	1365 mm
Min. ground clearance	170 mm
Seat height	785 mm
Weight (Net)	140 kg
Fuel tank capacity	17,0 lit
Tyres: Front	3.00-18-4PR
Rear	3.50-18-4PR
Brakes: Front	Double discs
Rear	Drum

Since this colour section went to press, Yamaha have decided to match the impressive performance of the RD350LC with equally impressive stopping power by the use of double disc brakes at the front.



300 miles in 3rd gear....

Yamaha's chief European development tester, Dave Bean, reveals just how tough your bikes are built ...



About to begin a test session with the RD350

The popular conception of how today's high-technology motorcycles are developed is that a lot of "faceless" boffins feed data in and out of a computer and finally put a machine on the market because the computer says it is "right".

Nothing could, in fact, be further

from the truth. Today's bikes may be complicated pieces of design, but their final production form is still confirmed by extensive, incredibly-tough "seat of the pants" road-testing. Actually, Yamaha's chief tester in Europe, Dave Bean, says that today's bikes get tougher road-

testing than machines did in the old days of the British industry when allegedly motorcycles were built "by enthusiasts for enthusiasts".

"The testing I do for Yamaha" says Dave "is tougher than anything I ever did for any British company."

Dave should know. At 36 years



At speed on the XJ650

old he has completed over 20 years as a test rider and development engineer in the motorcycle industry.

Leaving school at 15 years old, he joined the original Norton company at Bracebridge Street - when Nortons were kings of the road and racetrack. He began testing bikes like Norton's "Dominator" twins and, when Norton was merged into The Associated Motorcycles Group, expanded his riding activities to AJS and Matchless machines.

From there he went to BSA as chief tester, finally ending up at that company's Umberslade Hall development centre in the dual-capacity of chief tester and research engineer.

Following the BSA demise, Dave continued in a freelance capacity as an engineer and tester. He had a long association with famous British road racer and Triumph's chief tester, Percy Tait, and one of his post-BSA jobs was to maintain Percy's factory Suzuki road racers.

It was about this time that Yamaha - unique among Japanese factories - decided that machines destined for the European market should be tested and finally-developed on European roads, by European riders.

Up until that time (in the early seventies) bikes sold here were designed either for the Japanese domestic scene or for America. European riders got what they were given - and are still treated that way by some Japanese companies.

Not by Yamaha, however. "European riders deserve European-style bikes" was the factory dictum and therefore the Yamaha Motor N.V. European headquarters in Amsterdam began to take an active role in product development.

First bike to be "Europeanised" was the XS650 twin. It handled well enough on the slow, crowded roads of Japan or on the arrow-straight American Freeways but was definitely not up to the demands of European riders.

Percy Tait was called in to sort out the suspension and, when other business commitments began to take up too much of Percy's time, Dave Bean was called in. Dave's first task was to assist in development of the XS1100.

"The prototype was incredibly fast" remembers Dave. "It was doing over 160mph on the German autobahns and would smoke the rear tyre on dry road in the first three gears!

"It had to be de-tuned but a standard one straight 'out of the box' still lapped the Nardo test-track in Italy at 142mph!"

Nardo, in Southern Italy, is where a great deal of Yamaha testing is done. A joint project of the Fiat empire and the Italian government, it is an incredible complete circle, Nine miles in circumference!

One benefit of a circular track is that any lap time always represents a "mean speed" as the wind comes from every possible direction during the course of a single lap. For every point at which the wind is giving assistance, there is a point opposite where it is slowing the machine down.

When Dave Bena takes a bike out on to the Nardo track, the machine is equipped with a little radio-telemetry unit beamed into the trackside computer.

At the end of a day's testing, the engineers receive a computer print-out giving wind and weather conditions, barometric pressures and the performance of the bike around every inch of every lap!

Yamahas that Dave has thrashed around Nardo include the XS1100, the XS850 and, just lately, a lot of time with the exciting XJ650 four and



Dave Bean confers with engineers after a gruelling test workout on the Yamaha XJ650

RD250 and 350 liquid-cooled twins.

A typical day's testing on the Nardo bowl puts each machine through over 1000 miles of flat-out running. Each session of "endurance" testing covers some 10,000 miles at sustained high speeds to plumb the depths of the bike's capabilities.

Prior to Nardo, prototypes are put through miles and miles of actual highway testing on roads as varied as British motorways and German autobahns to back-roads in Britain, Holland and Italy.

The bikes are wired for all manner

of instrumentation for pressure and temperature checks and so on. Still a great factor, however, is the "feel" of the machine to the rider.

"We look out for any undue vibrations or quirks in handling, braking and the like", says Dave "and the engineers take just as much notice of our opinions as they do the instrument readings". Towards the end of the testing of any Yamaha prototype it is deliberately abused - and abused far worse than any normal rider is likely to do.

No engine or transmission adjustments are made, no oil

changes or fresh plugs. Even worse, bikes in this sorry state are regularly run 1500rpm "in the red"!

"I remember an incredibly tough session with the XS850" says Dave "where we ran it absolutely flat-out in the third of its five gears for three hundred miles! Finally it blew a head gasket but that was all. When the engine was stripped, everything else was fine!"

So rest assured that when you buy a Yamaha, just about any abuse that you are capable of has already been heaped upon the unprotesting machine!

Have we got a shock for the competition.

As always we're sticking to our policy of putting the lessons learned on the racetrack into our roadgoing machines.

1980 will reflect this even more strongly with some stunning new models incorporating many of the features found on our racers.

The predictable handling, precise steering and superb braking expected of a racing machine make our road bikes that much safer for you.



For race developed safety

